

PATENT CLAIMS

1. A process for preparing an enzyme containing particle comprising spray drying a fermentation broth starting material comprising an enzyme and a biomass, to obtain a solid particle
5 comprising an enzyme and a biomass.

2. The process of claim 1, wherein the fermented microorganism in the biomass is a strain selected from *Bacillus*, *Candida*, *Hansenula*, *Kluyveromyces*, *Pichia*, *Saccharomyces*,
10 *Schizosaccharomyces*, *Yarrowia*, *Acremonium*, *Aspergillus*, *Fusarium*, *Humicola*, *Mucor*, *Myceliophthora*, *Neurospora*, *Penicillium*, *Thielavia*, *Tolypocladium*, and *Trichoderma*.

3. The process of claim 1, wherein the enzyme is selected from
15 oxidoreductases (EC 1.-.-.-), transferases (EC 2.-.-.-), hydrolases (EC 3.-.-.-), lyases (EC 4.-.-.-), isomerases (EC 5.-.-.-) and ligases (EC 6.-.-.-).

4. The process of claim 1, wherein the biomass constitutes at
20 least 10% of the biomass originating from the fermentation.

5. The process of claim 4, wherein the biomass constitutes at least 50% of the biomass originating from the fermentation.

25 6. The process of claim 5, wherein the biomass constitutes at least 75% of the biomass originating from the fermentation.

7. The process of claim 6, wherein the biomass constitutes at least 90% of the biomass originating from the fermentation.

8. The process of claim 1, wherein the broth contains 0-30% w/w dry matter.

9. The process of claim 1, wherein the biomass constitutes up to 90% w/w of the dry matter.

10. The process of claim 1, wherein the enzyme constitutes up to 50% w/w of the dry matter.

11. The process of claim 1, further comprising de-sludging of the broth before spray drying.

12. A process for preparing an enzyme containing particle comprising spray drying an aqueous enzyme containing liquid starting material to obtain a spray dried first enzyme containing particle and subsequently subjecting the first dry particle to a process selected from granulation and coating and combinations thereof to obtain a second dry enzyme containing particle.

13. The process of claim 12, wherein the aqueous enzyme containing liquid is a fermentation broth, an enzyme filtrate or an enzyme concentrate.

14. The process of ^{claim 1} ~~claim 1 or 12~~, wherein additives selected from inorganic salts, inorganic minerals or clays, carbohydrates, coloring pigments, cellulose or derivatives thereof, biocides, dispersants, anti foaming agents, viscosity regulating agents, acid agents, alkaline agents, enzyme stabilizers, enzyme inhibitors, binders, other enzymes and combinations thereof has been added to the starting material.

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15. The process of ~~claim 1 or 12~~, wherein the starting material has been subjected to a physical treatment selected from heating, cooling, radiating, mixing, aerating and ultra-sound treatment.

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16. The process of claim 15, wherein the starting material has been heated or cooled to 5-150°C.

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17. The process of ~~claim 1 or 12~~, wherein the starting material has been sterilised.

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18. The process of ~~claim 1 or 12~~, wherein the starting material has been treated to hydrolyse polynucleotides present in the starting material.

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19. The process of ~~claim 1 or 12~~, wherein the starting material is a fermentation broth or a fermentation filtrate containing at least 3 mg active enzyme protein per liter liquid phase.

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20. The process of ~~claim 1 or 12~~, wherein the starting material has a viscosity of 5-5000 cps.

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21. The process of ~~claim 1 or 12~~, wherein the spray drying comprises the step of atomising the starting material by means of an atomising device selected from high speed rotating disk atomizers, pressure nozzle atomizers, pneumatic nozzle atomizers, sonic nozzle atomizers and Rayleigh atomisers.

22. The process of claim 21, wherein the atomising device is a Rayleigh atomiser.

a 23. The process of ^{claim 1}~~claim 1 or 12~~, further comprising the step of additional drying of the spray dried particles in a fluid bed dryer.

a 5 24. The process of ^{claim 1}~~claim 1 or 12~~, wherein the spray dried particles has a SPAN value below about 2.5.

25. The process of claim 12, wherein the granulation process is selected from mixer granulation, prilling, extrusion, fluid bed
10 and compacting processes.

26. A particle comprising an enzyme and a biomass.

27. The particle of claim 26, obtained from a process selected
15 from spray drying a fermentation broth, granulating a spray dried fermentation broth, coating a spray dried fermentation broth and granulating and coating a spray dried fermentation broth.

20 28. A composition comprising the particles of ^{claim 26}~~claim 26 and 27~~.

29. The composition of claim 28, wherein the composition is selected from cleaning compositions, textile processing compositions, leather processing compositions, pulp or paper processing compositions, food and beverage compositions, animal
25 feed compositions and personal care compositions.

30 30. The cleaning composition of claim 29, wherein the cleaning composition is a detergent composition further comprising a surfactant.

